Acupalpus exiguus **Dejean (Coleoptera: Carabidae) "swarming".**—My father, Mr A. W. Jones, recently sent me numerous specimens of a small ground beetle which he had found on the roof of his car while it was parked at Greatham Bridge, over the River Arun, Coldwaltham, West Sussex, on 13.ix.95. They all proved to be *Acupalpus exiguus*. This species is accorded Notable B status by Hyman & Parsons (1992). Apparently the roof of the car was dotted with many dozens of the beetles, mostly dead. They may have been encouraged to take to the air following a brief shower which quickly filled up the dykes which run through the river valley. The descent of beetles onto car roofs is an often observed phenomenon and usually involves water or dung beetles which presumably imagine the shiny surface to be a pond or pat. Being a stream-side mud-inhabiting species, the *Acupalpus* seemingly made the same mistake.—RICHARD A. JONES, 13 Bellwood Road, Nunhead, London SE15 3DE.

REFERENCE

Hyman, P. S. & Parsons, M. S. 1992. *A review of the scarce and threatened Coleoptera of Great Britain. Part 1.* UK Nature Conservation no 3. Joint Nature Conservation Committee, Peterborough. p. 100.

BOOK REVIEW

Integrated pest management by D. Dent. Chapman & Hall, 1995, 356 pp, hardback £45—In the brave new world of the 1950s and 60s a wide range of highly effective insecticides, fungicides and herbicides became available which revolutionized farming practices. The yield and quality of crops improved as intractable pests, diseases and weeds became a thing of the past. This allowed increasingly intensive crop production, but before long problems began to appear. Pesticide-resistant strains have developed, new pests have been created when their natural enemies were wiped out by insecticides, allowing formerly minor pests to breed unchecked, and there is growing awareness of the consequences of allowing chemicals to pollute the soil and waterways. This has led crop-protection scientists to develop integrated pest management (IPM) programmes for some crops with the aim of reducing reliance on chemicals.

This book covers the principles of IPM and the theoretical side of the development of infestations and their control, before moving on to the factors to be considered in devising an IPM programme. This involves keeping pests below the population levels that cause economic damage by using a variety of methods. These include resistant or pest-tolerant crop varieties, cultivation techniques that discourage pests, reducing chemical use by more accurate application, monitoring of the pest population to determine the most effective time for treatment, the use of more selective pesticides, and the introduction of natural enemies. Those requiring further reading will find that each chapter is supported by several pages of references. The final chapters describe some IPM programmes that have been used on olives, wheat, cotton and glasshouse crops. These examples are biased towards pest management rather than disease or weed control, since that is where IPM programmes have had most success. The main readership for this book will be people who are engaged in crop protection but anyone who is interested in "greener" forms of crop production, and the difficulties associated with this, will find something of interest here.

A. J. HALSTEAD